

use an awl to punch a small hole in the steel backing of the seal. Install a small sheet metal screw part way into the seal and pull the seal out with a pair of pliers.

CAUTION

Do not install the screw too deep or it may contact and damage the bearing behind it.

2. The bearings are installed with a slight interference fit. The crankcase must be heated in an oven to a temperature of about 212° F (100° C). An easy way to check the proper temperature is to drop tiny drops of water on the case; if they sizzle and evaporate immediately, the temperature is correct. Heat only one case at a time.

CAUTION

Do not heat the cases with a torch (propane or acetylene); never bring a flame into contact with the bearing or case. The direct heat will destroy the case hardening of the bearing and will likely cause warpage of the case.

3. Remove the case from the oven and hold onto the 2 crankcase studs with a kitchen pot holder, heavy gloves or heavy shop cloths—it is hot.

4. Remove the oil seals if not already removed (see Step 1).

5. Hold the crankcase with the bearing side down and tap it squarely on a piece of soft wood. Continue to tap until the bearing(s) fall out. Repeat for the other half.

CAUTION

Be sure to tap the crankcase squarely on the piece of wood. Avoid damaging the sealing surface of the crankcase.

6. If the bearings are difficult to remove, they can be gently tapped out with a socket or piece of pipe the same size as the bearing outer race.

NOTE

If the bearings or seals are difficult to remove or install, don't take a chance on expensive damage. Have the work performed by a dealer or competent machine shop.

7. While heating up the crankcase halves, place the new bearings in a freezer if possible. Chilling them will slightly reduce their overall diameter while the hot crankcase is slightly larger due to heat expansion. This will make bearing installation much easier.
8. While the crankcase is still hot, press each new bearing(s) into place in the crankcase by hand until it seats completely. Do not hammer it in. If the bearing will not seat, remove it and cool it again. Reheat the crankcase and install the bearing again.
9. Oil seals are best installed with a special tool available at a dealer or motorcycle supply store. However, a proper size socket or piece of pipe can be substituted. Make sure that the bearings and seals are not cocked in the crankcase hole and that they are seated properly.

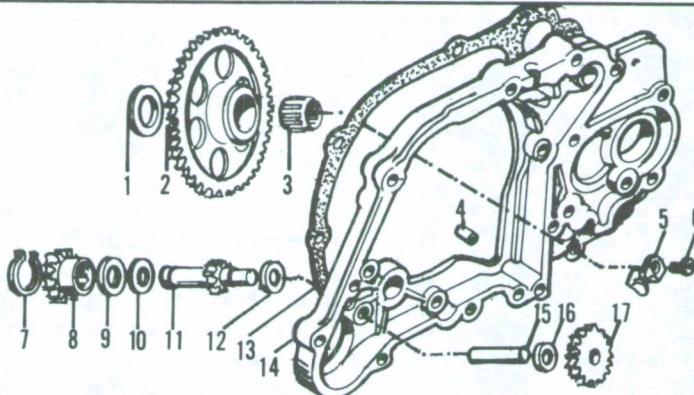
ELECTRIC STARTER GEARS AND LEFT-HAND CRANKCASE COVER SPACER (ATC125M)

Removal/Installation

Refer to Figure 130 for this procedure.

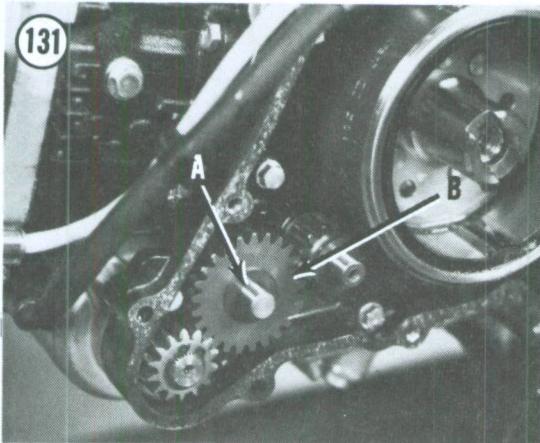
1. Remove the alternator stator and rotor as described in Chapter Seven.
2. Remove the left-hand rear wheel and the drive chain cover as described in Chapter Eight.
3. Remove the subtransmission as described in Chapter Five.
4. Remove the thrust washer (A, Figure 131) and the starter idler gear (B, Figure 131).
5. Remove the thrust washer (Figure 132) from the reduction gear shaft.
6. Remove the screw securing the driven gear set plate (Figure 133) and remove the set plate.
7. Disconnect the neutral indicator switch electrical connector and withdraw the rubber grommet from the left-hand crankcase spacer (Figure 34).
8. Remove the bolts (Figure 135) securing the crankcase cover spacer and remove the spacer from the crankcase. Don't lose the locating dowels.
9. Remove the starter driven gear (Figure 136), the needle bearing (Figure 137) and the spacer (A, Figure 138).
10. Remove the neutral indicator shaft, dowel pin and gasket (B, Figure 138).

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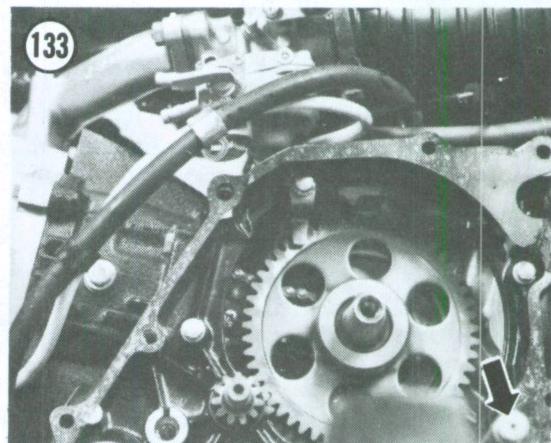
**STARTER GEARS AND LEFT-HAND CRANKCASE SPACER**

- | | | |
|--------------------------|------------------------------|--------------------------------|
| 1. Spacer | 7. Circlip | 13. Gasket |
| 2. Driven gear | 8. Reduction gear | 14. Left-hand crankcase spacer |
| 3. Needle bearing | 9. Thrust washer | 15. Shaft |
| 4. Dowel pin | 10. Thrust washer | 16. Thrust washer |
| 5. Driven gear set plate | 11. Reduction gear and shaft | 17. Starter idle gear |
| 6. Screw | 12. Thrust washer | |

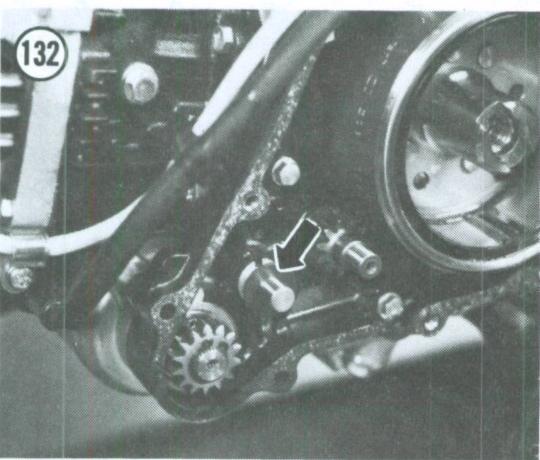
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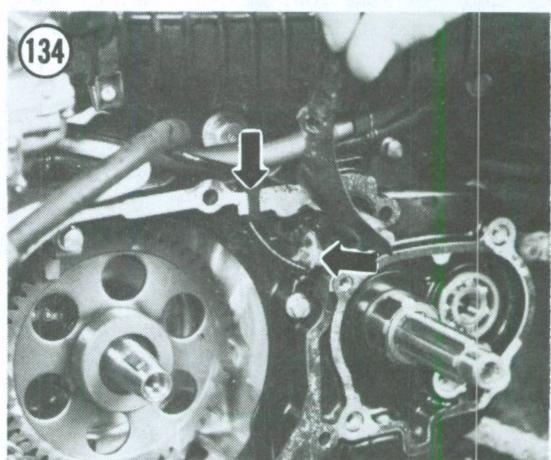
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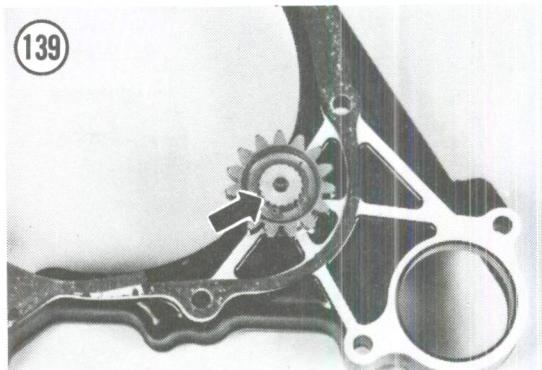
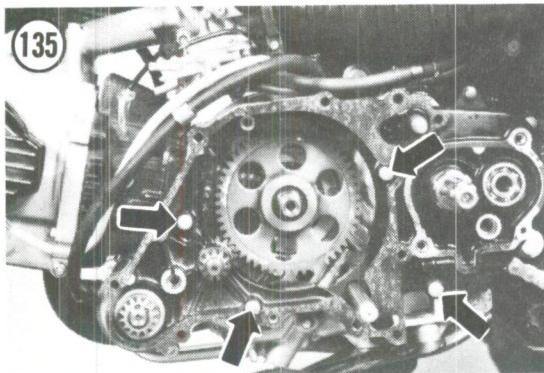


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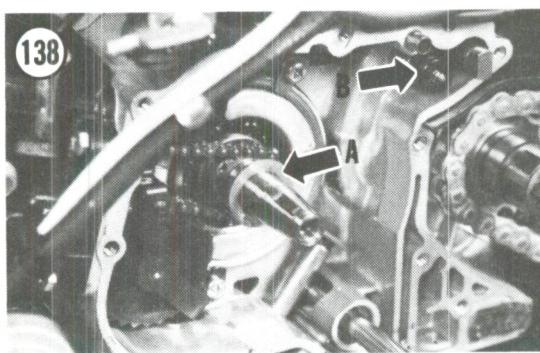
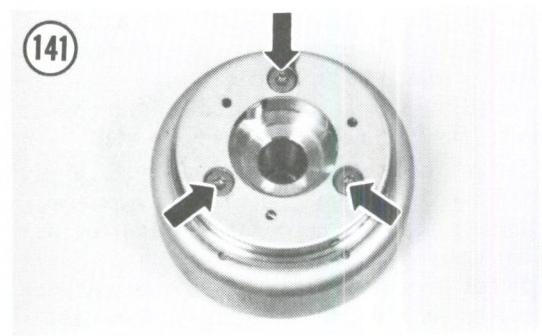
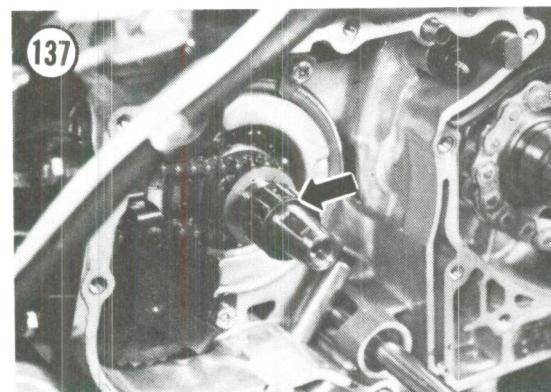
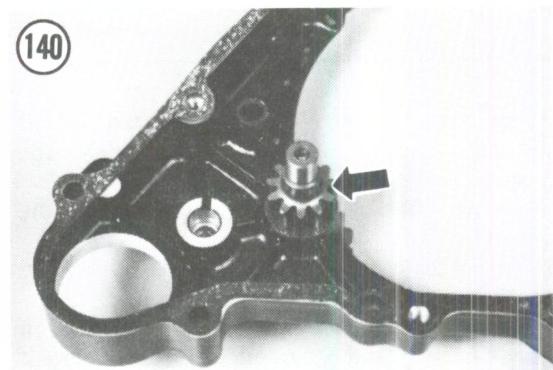
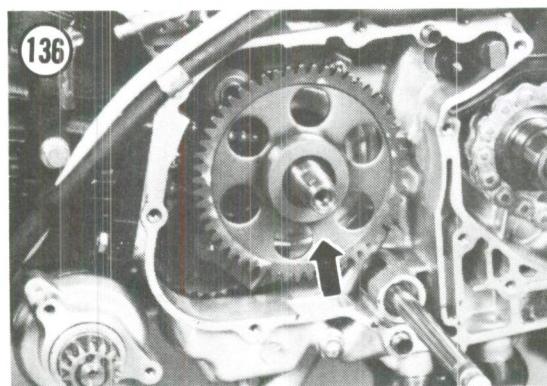


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11. Remove the circlip (Figure 139) securing the starter reduction gear to the crankcase cover spacer.

12. Remove the starter reduction gear and thrust washer from the inside surface of the crankcase cover spacer.

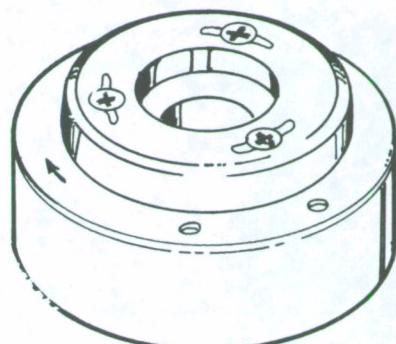
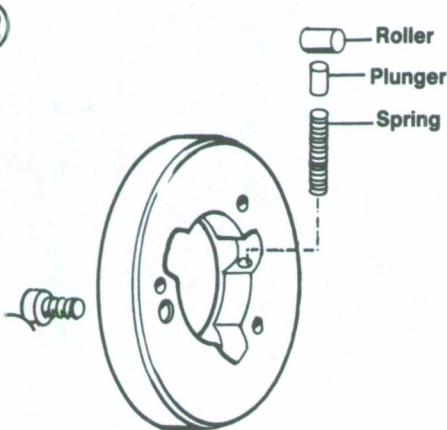
13. From the outside surface of the crankcase spacer, withdraw the reduction gear/shaft (Figure 140) and thrust washer.

14. Install by reversing these removal steps.

Disassembly/Inspection/Assembly

1. Use an impact driver and a T-30 Torx driver bit to remove the screws (Figure 141) securing the

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starter clutch cover to the starter clutch housing/alternator rotor assembly. Remove the cover.

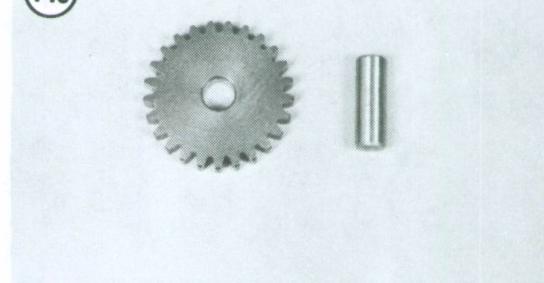
2. Remove the rollers, the plungers and the springs.
3. Inspect the rollers for uneven or excessive wear. Replace as a set if any require replacing.
4. Inspect the driven gear, idler gear and reduction gears. Check for chipped or missing teeth; replace if necessary.
5. Inspect the driven gear needle bearing for wear or damage. Rotate the bearing by hand and check for roughness, noise or play. If the bearing is suspect it should be replaced.
6. Install the springs, the plungers and the rollers into the starter clutch housing (**Figure 142**).
7. Inspect the starter idler gear and shaft (**Figure 143**) for wear and damage. Replace if necessary.
8. Inspect the needle bearing (**Figure 144**) for wear or damage; replace if necessary.
9. Install the starter cover and the screws. Use an impact driver and tighten the screws (**Figure 141**).
10. Use a punch and stake each screw head into the groove next to each screw head.

RECOIL STARTER (70-110 CC)

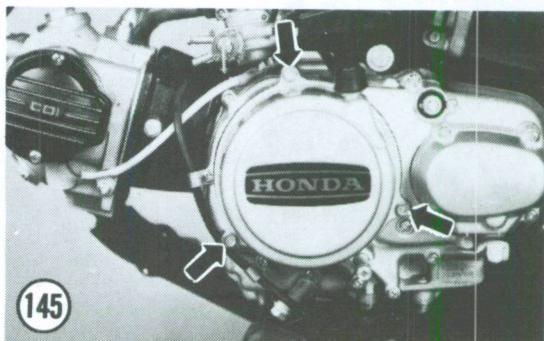
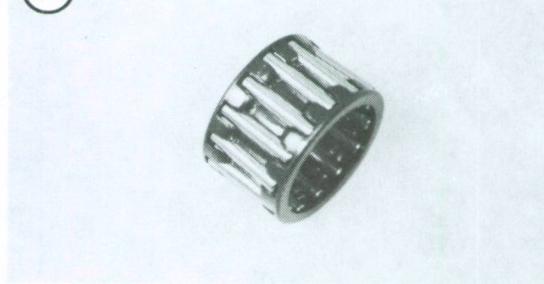
Removal/Installation

1. Place the ATC on level ground and set the parking brake or block both wheels so the vehicle will not roll in either direction.
2. Shift the transmission into NEUTRAL and remove the gearshift lever.
3. Remove the bolts (**Figure 145**) securing the recoil starter assembly and remove the assembly.
4. Install by reversing these removal steps. Make sure to install a new gasket on the assembly prior to installation.

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